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# Localization of classical swine fever virus (CSFV) in the brain of pigs infected with strain Kozlov

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While, some CSFV strains induce moderate to severe affection of the central nervous system (CNS), others do not[1].

The aim of the present experiment was to study putative correlations between the intensity of brain lesions or CSFV-infected cells, – and CNS symptoms, viral RNA load or the number of CD3-positive cells in brain tissue. Nine pigs were inoculated with CSFV Kozlov, 6 pigs were controls. Daily clinical examinations, including CNS scoring, were carried out. The pigs were euthanized on PID 6-10. Necropsy was performed and formalin-fixed brain tissue was examined for CSFV and CD3[2] by immunohistochemistry.

CNS symptoms in infected pigs were ataxia (n=8), paresis (n=1) and convulsions (n=5).

All infected pigs had brain lesions, like congestion, meningitis with mononuclear cells and/or accumulations of eosinophils, and perivascular cuffings.

All infected pigs had CSFV-infected cells in the brain. The cells were mainly localized around and in vessels in all parts of the cerebrum and cerebellum. The infected cells were endothelium and lymphocytes, however, dendrite-like cells were also seen. Quantitative-RT-PCR[3] showed that the viral RNA load of the brain correlated well to that of serum.

CD3-positive cells were seen in infected pigs and controls, but in higher numbers in infected pigs, which also had considerably more CSFV-infected cells than CD3-positive cells.

All inoculated pigs had non-suppurative meningo-encephalitis. The intensity of brain lesions correlated well to the number of CSFV-infected cells. There was no obvious association between the number of lesions or CSFV-infected cells, and – CNS symptoms, the number of CD3-positive cells or viral RNA load in the brain.

**References**

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